

**The Fondation Pacifique  
presents**

***The Ocean Mapping Expedition***  
**(April 2015 - September 2019)**

**A 4-year journey around the world  
in the wake of Magellan  
aboard the 33m-long Swiss sailboat  
*Fleur de Passion*  
to map the human impact on the oceans  
and raise awareness about  
sustainable development issues**

## *The Ocean Mapping Expedition in a nutshell, facts & figures*

**1 sailboat**, 33m-long Swiss ketch *Fleur de Passion*, logistical platform of the expedition and ambassador of the oceans

**3 pillars**: science, education and culture

**4 long-term scientific programs** on:

- micro plastic pollution (*Micromegas* program): **208 surface water samplings**, in partnership with Oceaneye NGO, Geneva
- noise pollution (*20,000 sounds under the sea*): **hundreds of hours of underwater recordings**, in partnership with the Polytechnic University of Catalonia, Barcelone
- greenhouse gases (*The Winds of Change*): **30'000 km of coastal and oceanic monitoring** of methane and carbone dioxide concentrations at the surface of the oceans, in partnership with the University of Geneva
- **+ 1800 coral health observations**, in partnership with Coralwatch, University of Queensland, Brisbane

**5 punctual scientific missions** among which:

- 12'000 photos on 17 coral reefs as part of 59 underwater transect on a total distance of 40 km on the Great Barrier Reef

**60 teenagers** as part of the *Youth At Sea* socio-educational program in partnership with Association Pacifique, Geneva

**20 cartoonists and illustrators** « in residence » - 10 female and 10 male artists - as part of the *In the mirror of Magellan* cultural program

**+/- 100 passengers** as part of the sharing experience program

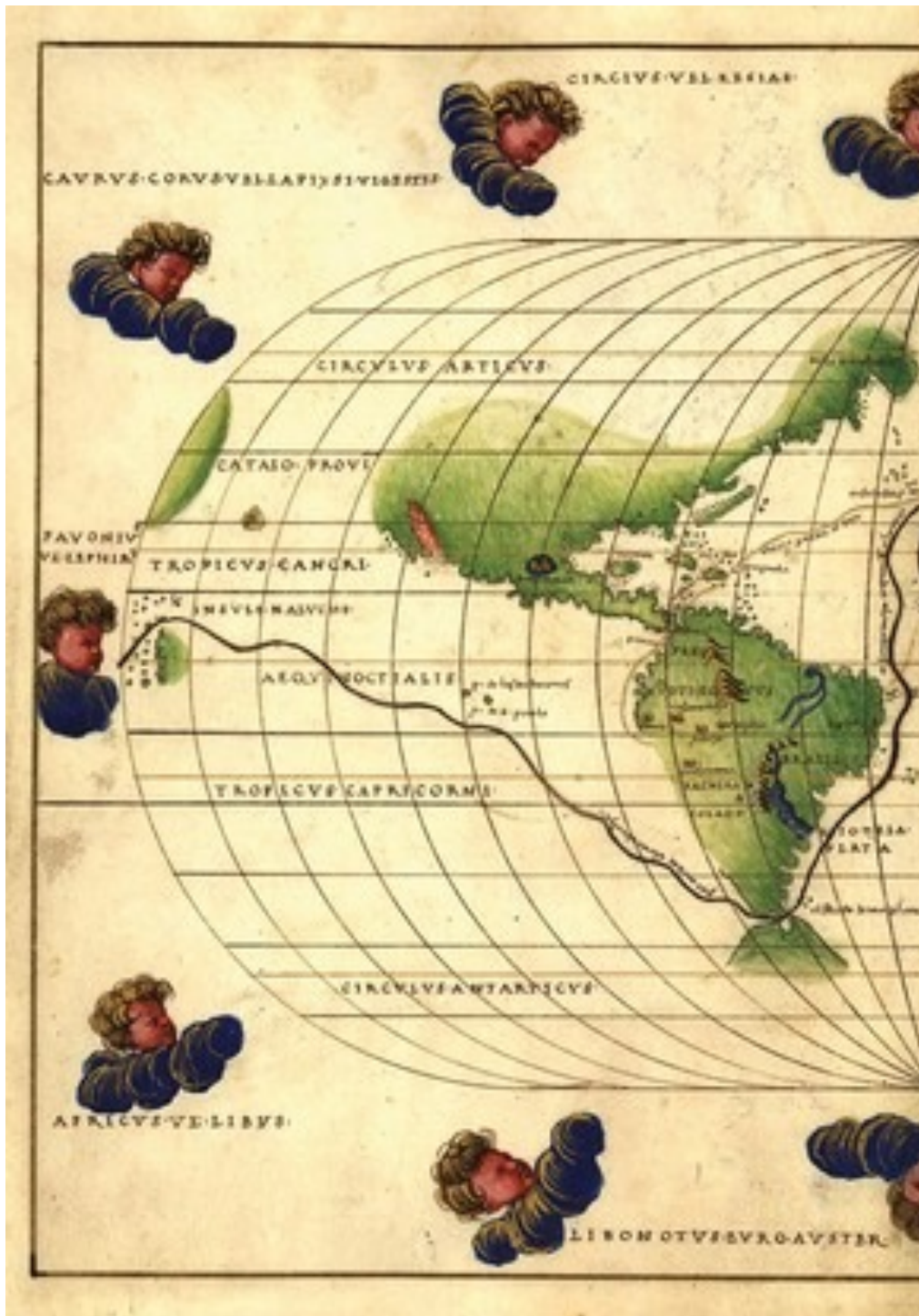
**1606 days** around the world from 13th April 2015 (departure from Seville) to 6th September 2019 (return to Seville)

**76'000 km** around the globe, or twice the circumference of the globe including 4 crossings of the Equator - **28 countries** visited

**5000 visitors** at stopovers including dozens of primary and secondary school children

**4 exhibitions**: *Notre île aux épices*, Geneva, *Our Spice Islands*, Cape Town; *Nuestra isla de las especias*, Seville; *On the plastic footsteps of Magellan*, Geneva





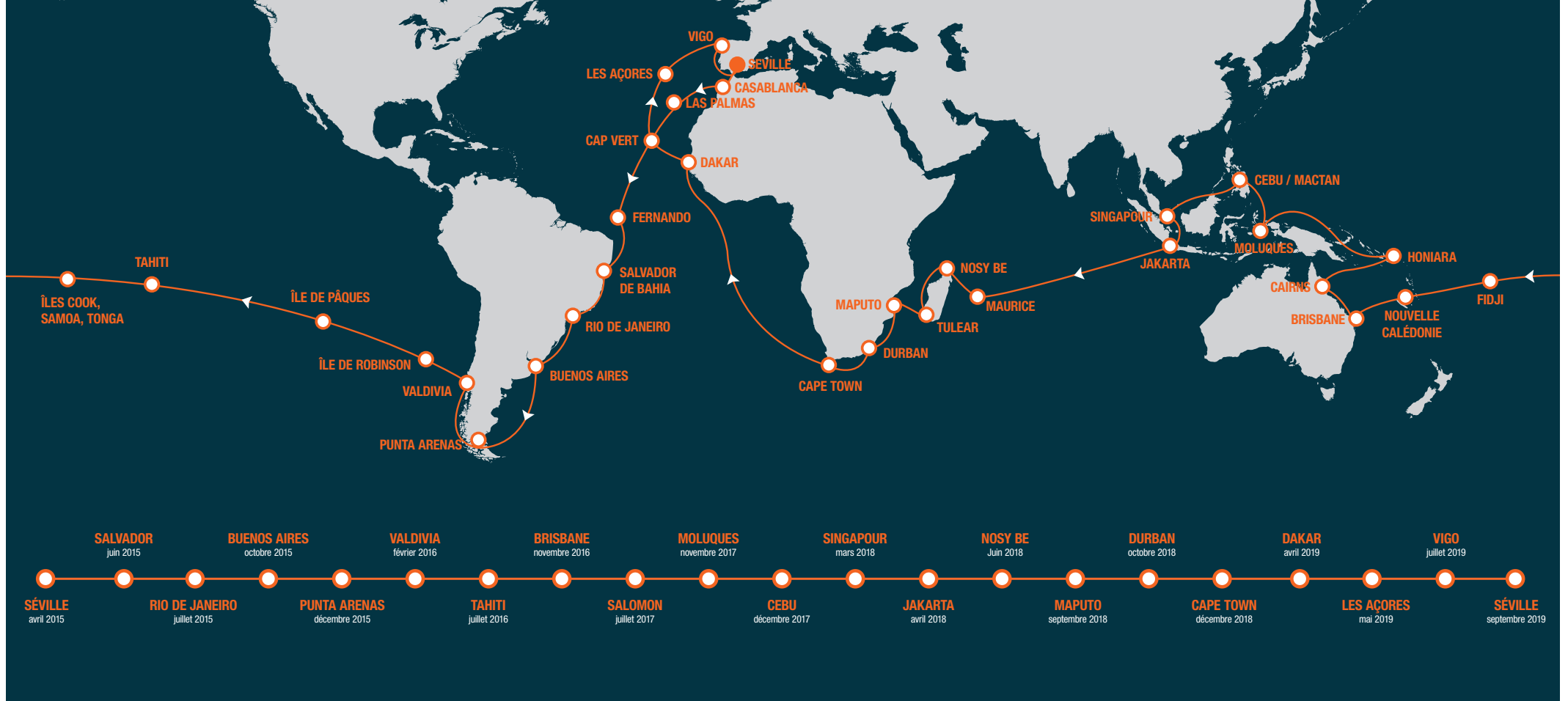
"The quest for spices began it. From the days when the Romans, in their journeys and their wars, first acquired a taste for the hot or aromatic, the pungent or intoxicating dietetic adjuvants of the East, the Western World found it impossible to get on without a supply of Indian spices in cellar and storeroom." **Magellan, Stefan Zweig**

### Today's spice islands

Some 500 years after Ferdinand Magellan, what are our spice islands? No longer in a literal but a figuratively sense. In a world with steadily dwindling resources, what are the material, and even more importantly, the spiritual resources that we need to discover to help us rethink our relationship with Planet Ocean to make it viable and sustainable? To reinvent peaceable relations between ourselves and other human beings?

This is what *The Ocean Mapping Expedition* is all about: a reflection inspired by this unique expedition that mirrors past and present, present and future. Setting out in the wake Magellan in some way recaptured the spirit of the great explorations and discoveries of past centuries, which continue to fire our imagination. But not making a fanciful and idealized representation of it. Nor attempting to reproduce a chapter of human history that belongs to the past.

Instead, Magellan's expedition (1519-1522) was a pretext to observe the oceans as they are today, to raise questions about the environmental issues at hand in the light of some of the major, timeless themes: the quest for knowledge and discovery; access to wealth and its distribution; the spirit of territorial, commercial, cultural and ideological conquest, of which we are finding it so difficult to rid ourselves; the uncontrollable quest for power and domination or, on the contrary, the search for better co-existence, the utopian dream of a world at peace and rid of weapons, like *Fleur de Passion*, the sailing boat at the heart of today's adventure.



## From Sevilla to Sevilla, April 2015 - September 2019

4-and-a-half years around the world

**to observe, understand and map**

the state of the oceans and the human impact on this vital environment

**and help raising awareness**

about sustainable development issues in the wake of

the expedition headed by Ferdinand de Magellan

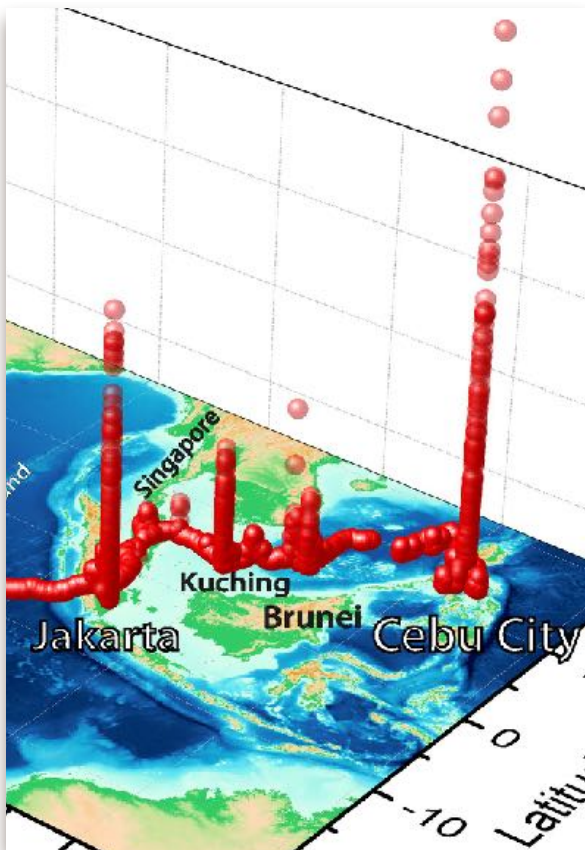


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## Learn, share & raise awareness

A combined approach of oceanographic and environmental issues  
through unique programs articulated around 3 pillars



Science



Education



Culture

## Sailing for science

On board *Fleur de Passion*,  
the scientific partners of the expedition  
have implemented their own program on human impact on the oceans  
and carried out field research, be it on the long term  
or during specific short term missions

## Science (1)

### *The Winds of Change*

Since December 2017 and the stopover in Cebu, Philippines, *Fleur de Passion* has been equipped with sensors and analyzer to continuously monitor greenhouse gases (methane and carbon dioxide) on the surface of the oceans. This monitoring has been carried out as part of the *The Winds of Change*, developed program in partnership with Prof Daniel McGinnis (photo left), Head of the aquatic physics group of [Department F.-A. Forel of the University of Geneva](#). Unprecedented in its geographical scope, this program aims to better understand the role of the oceans in the issue of global warming at a precise moment when there's an urgent need to reassess their role in the world's carbon cycle. Thanks to these measurements, the data gathered will serve to validate and/or better calibrate other data currently being obtained from measurements by satellite and oceanographic and atmospheric models





## Science (2)

### 20'000 Sounds Under the Seas

Unparalleled in the world, the *20 000 sounds under the sea* program in partnership with the Laboratory of Bioacoustic Applications (LAB) of the Polytechnic University of Catalonia in Barcelona led by the biologist and engineer Prof Michel André, 2002 Rolex Award laureate (photo below), aimed to map the noise pollution of the oceans (caused by shipping, sonar, oil and gas exploration, etc) using an experimental equipment embedded on *Fleur de Passion*.

Recordings can be heard on: [www.listentothedeep.net](http://www.listentothedeep.net)



*Fleur de Passion* is equipped with two different hydrophone devices: one manually operated (left and above) when the boat is anchored, the other trawled behind the boat when navigating in the high sea.

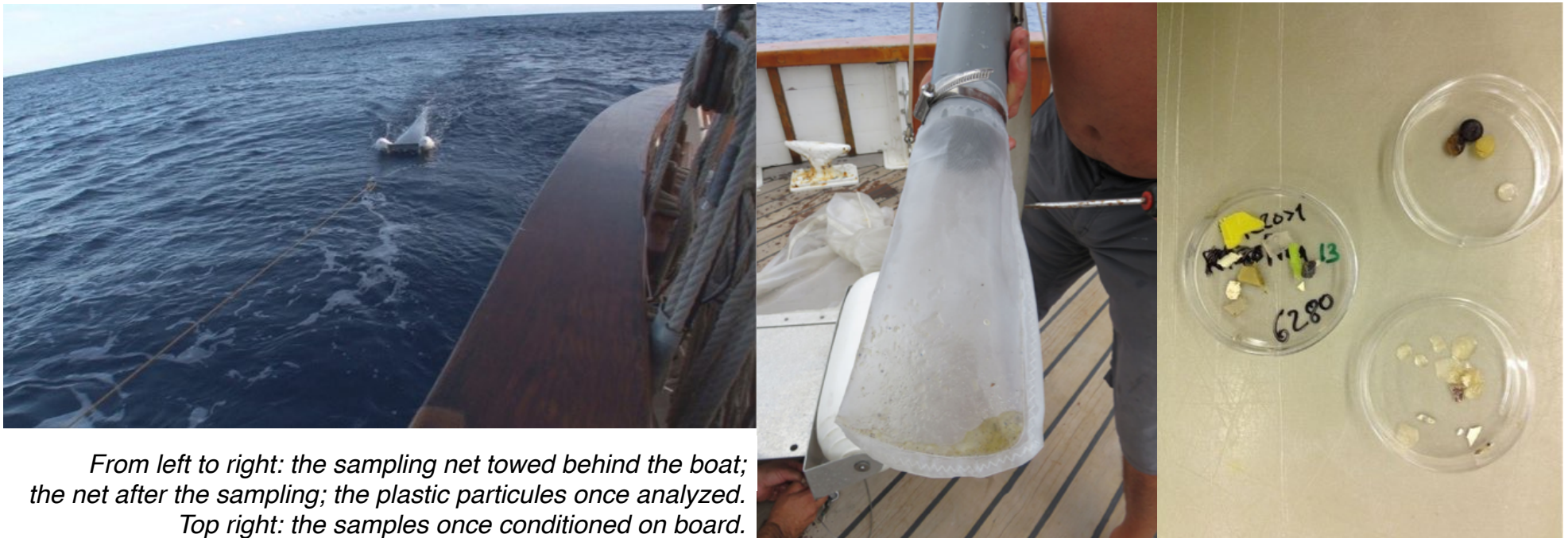


## Science (3)

### Micromégas

Also launched from Seville, the scientific program **Micromégas** - named after Voltaire's tale and which stands for « microwastes/megaproblems » - in partnership with the Geneva-based Oceaneye association has consisted in collecting samples of surface sea water on a regular base in order to assess the quantity of micro- and mesoplastic pollution. A total of 208 samples have been collected. Once conditioned on board, these samples are analyzed in Switzerland and are providing Oceaneye with new datas on the phenomenon. The results of this mapping of plastic pollutants are shared with the United Nations Environment Program (UNEP) and made available to the whole scientific community.

Results and analysis on: [www.oceaneye.ch](http://www.oceaneye.ch)



*From left to right: the sampling net towed behind the boat;  
the net after the sampling; the plastic particules once analyzed.  
Top right: the samples once conditioned on board.*

## Science (4)

### CoralWatch

Launched from Brisbane, Australia, in March 2017, the « citizen science » program led by University of Queensland based CoralWatch project consisted in observing the state of the health of the corals and coral bleaching along the way of the expedition and collecting datas about this worldwide phenomenon caused by global warming. In total, more than 1,800 observations had been made and transmitted to CoralWatch.

More on: <http://coralwatch.org>



CORALWATCH



*The observations are carried out by the crew of Fleur de Passion or any passenger on board duly briefed on the CoralWatch protocol.*



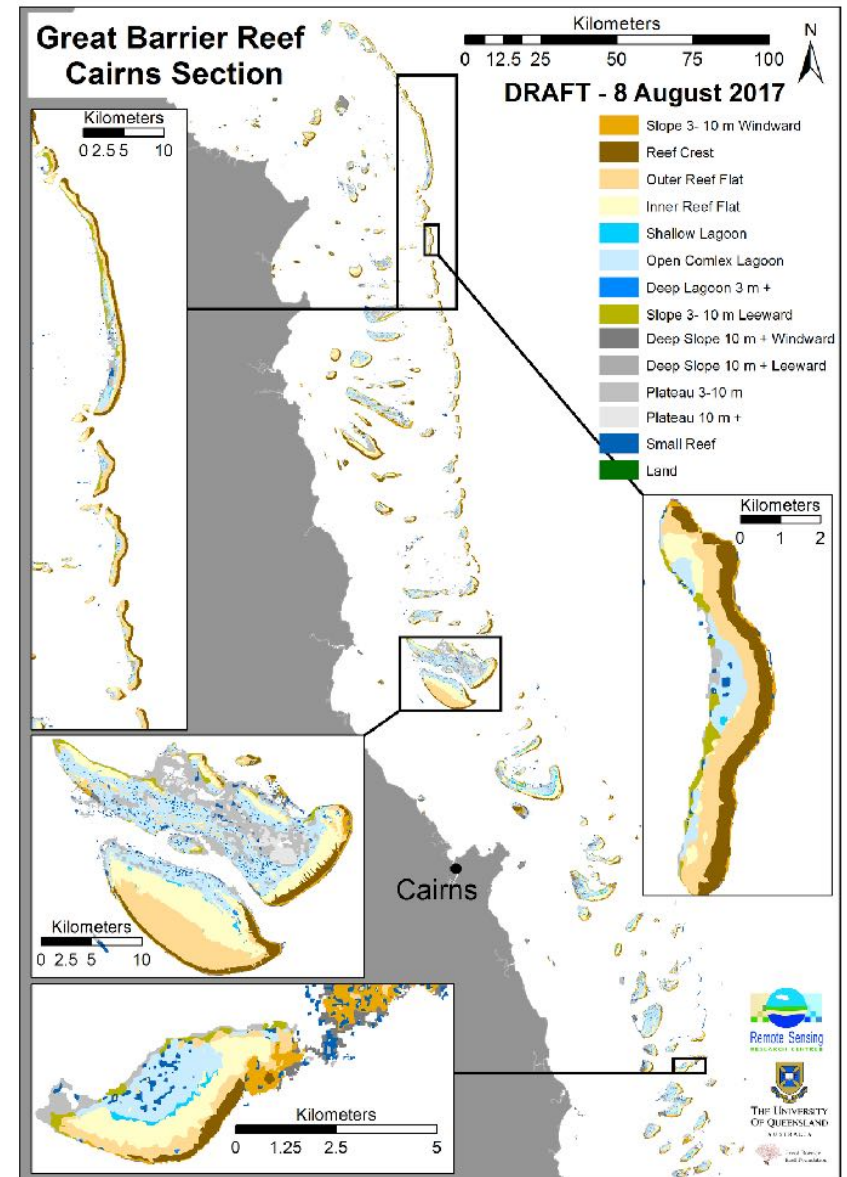
## Science (5)

### Live Habitat Mapping



In April-May 2017, between Cairns and Cooktown and using *Fleur de Passion* as their logistical platform, a team of scientists from the Remote Sensing Research Center (RSRC), University of Queensland, performed 59 transects and took 12,000 photos on 17 selected reefs over a cumulated distance of 40 km as part of a major project to develop a coral reef mapping tool involving several Australian oceanographic institutions. This tool is now implemented globally as part of the Allen Coral Atlas ([allencoralatlas.org](http://allencoralatlas.org)).

All these photos are now accessible on: <https://doi.pangaea.de/10.1594/PANGAEA.877570>



## Education - Sharing the experience

As a sailboat promoting a « working together » approach  
in a multi-disciplinary spirit,

*Fleur de Passion* has been the privileged setting  
for whoever was volunteer to embark for a week or more  
and experiment life at sea as a crew member,  
especially teenagers in search for a new start





## Sharing the experience (1)

### Youth at Sea



The socio-educational program *Youth at Sea*, in partnership with the Association Pacifique in Geneva, has embarked 60 teenagers and young adults for two-month reintegration stays aboard *Fleur de Passion*. Some like ship's apprentices, others in groups of 5-7 with their educators. On board, all are full-fledged crew members taking their shift and maneuvering as well as carrying out activities related to other programs, such as collecting water samples for the *Micromegas* program on micro-plastic pollution.

More on the program on: [www.pacifique.ch](http://www.pacifique.ch)



## Sharing the experience (2)

### *Embark for the adventure*

No need to be either young, a scientist, a cartoonist or an experienced sailor to join in. Far from being an exclusive project accessible only to a happy few, *The Ocean Mapping Expedition* was the exact opposite: a project open to whoever wants to be part of the adventure and experiment life at sea on a sailboat where everyone is a crew member and takes his watch in a sharing experience atmosphere. A total of 100 passengers thus took fully part to the life on board and were the privileged witnesses of the environmental problems at the heart of the expedition.





## Culture - Raising awareness

At each major stopover around the world  
or in Geneva, the « port of call » of the expedition,  
the public has been invited to join the adventure  
and taste today's « spices »  
through a wide range of events and outreach initiative  
dedicated to raising awareness about  
environmental issues

## Raising awareness (1)

### *In The Mirror of Magellan*

A total of 20 cartoonists and illustrators - 10 women and 10 men - have embarked « in residence » onboard *Fleur de Passion* throughout the journey as part of the *In The Mirror of Magellan* cultural program. Their sketches, drawings and cartoons document the voyage has contributed to raising awareness through various projects online and off-line including publications and exhibits.

These illustrators are (chronological order): **Zep**, Portimao (Portugal), March 2015; **Matthieu Berthod**, Séville-Las Palmas (Spain), April 2015; **Tom Tirabosco**, Salvador de Bahia-Rio de Janeiro (Brazil), July 2015; **Pierre Wazem**, Strait of Magellan (Chile), December 2015; **Peggy Adam**, Puerto Montt-Valdivia (Chile), January-February 2016; **Isabelle Pralong**, French Polynesia, July 2016; **Ambroise Héritier**, Tahiti-Fidji, September-October 2016; **Pierre Baumgart**, Brisbane-Mackay (Great Barrier Reef, Australia), March-April 2017; **Alex Baladi**, Sorong (Indonesia), October-November 2017; **Mirjana Farkas**, Sorong-Manado (Indonesia), November 2017; **Maurane Mazars**, Visayas (Philippines), January 2018; **Cécile Koepfli**, Singapour-Jakarta, March-April 2018; **Aloys Lolo**, Jakarta-Nosy Be (Madagascar), April-June 2018; **Amélie Strobino**, Nosy Be, July 2018; **Frederick Peeters**, Tulear (Madagascar)-Maputo (Mozambique), September 2018; **Katharina Kreil**, Maputo-Durban (Mozambique-South Africa), October 2018; **Anton Kannemeyer**, Mossel Bay (South Africa), November-December 2018; **Anne Bory**, Cabo-Verde-Azores, May 2019; **Kati Rickenbach**, Azores-Vigo, June 2019; **Renata Martino**, Vigo-Lisbon, July 2019



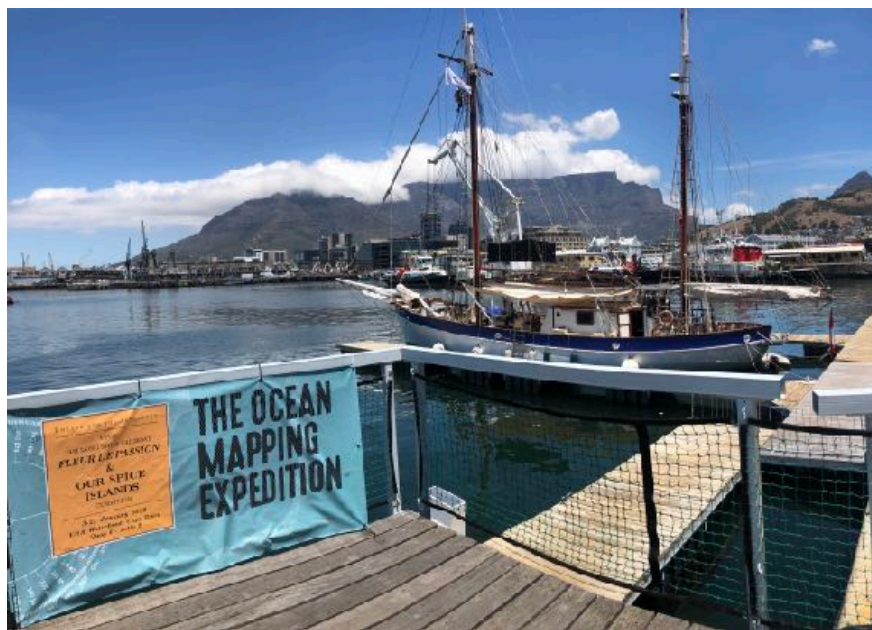


## Raising awareness (2)

### Bringing the oceans at the heart of the city through public events, school visits...

As it is the expedition's mission to share « today's spices » with the broader public, at main stopovers communication & outreach events have been set up on and around *Fleur de Passion* in a spirit of raising awareness through public and school guided visits of the boat, screenings, press conferences involving the expedition's partners and even exhibitions, etc. In total, some 5,000 people including hundreds of primary and secondary school children have had the opportunity to discover the expedition.

Main stopovers have included, in chronological order: Rabat, Buenos Aires, Valdivia, Papeete, Brisbane, Mactan, Brunei, Singapore, Jakarta, Durban, Cape Town, Dakar, Vigo, Seville.



## From Sevilla to Sevilla April 2015 - September 2019

Since the launch of *The Ocean Mapping Expedition*, *Fleur de Passion* has demonstrated her potential as a sailing boat in promoting a new approach of oceanographic issues.

### 5 main scientific programs/mission

- **Micromégas: 208 surface water samples** collected by the crew, packed on board and sent to Switzerland for analysis. Almost all samples have shown the presence of plastic particules.
- **The Winds of Change: the longest ever greenhouse gases transect** on the surface of the oceans and the Indian Ocean and the Atlantic Ocean revealed as unexpected sinks for methane.
- **20,000 Sounds Under the Seas: hours of recordings** have been made, especially in the Strait of Magellan and the Pacific Ocean, a unique contribution to mapping the noise pollution in the oceans.
- **CoralWatch: more than 1,600 observations** of the state of health of the coral have been carried out by the crew.
- **Live Habitat Mapping of the Great Barrier Reef: 12,000 pictures** taken on 17 reefs as part of a global project involving some of the major oceanographic institutions from Australia in order to map coral reefs all over the world through the ongoing [Allen Coral Atlas](#) project.

### 60 young kids as privileged witnesses of the expedition

- 60 **teenagers and young adults** have joined the expedition as members of the **Youth at Sea** socio-educational program, by pair or in group of 5/7, some of aged 14 and for up to 2 months. Some 100 passengers shared the experience from one to several weeks on board.

### 20 cartoonists and illustrators « in residence »

- Zep (SUI), Matthieu Berthod (SUI), Tom Tirabosco (SUI), Pierre Wazem (SUI), Peggy Adam (FRA), Isabelle Pralong (SUI), Ambroise Hériter (SUI), Pierre Baumgart (SUI), Alex Baladi (SUI), Mirjana Farkas (SUI), Maurane Mazar (FRA), Cécile Koepfli (SUI), Aloys Lolo (SUI), Amélie Strobino (SUI), Frederick Peeters (SUI), Katharina Kreil (SUI), Anton Kannemeyer (South Africa), Anne Bory (SUI), Kati Rickenback (SUI), Renata Martino (SUI).

## ***Fleur de Passion***

The logistic platform with a stunning history

**FLAG :** Switzerland

**HULL AND DECK :**

Overall length : 33 m

Length of the hull: 24 m

Maximum width : 6,10 m

Draught : 3 m

Structure : steel

Hull : oak

Deck's surface : 120 m<sup>2</sup>

Total weight : 100 tons

**RIGGING :**

Rigging : ketch

Sails surface : 380 m<sup>2</sup>

Main mast : 24 m

Mizen mast : 17 m

Bowsprit : 8 m

**USUAL CREW :**

12-14 people including:

1 captain

1 first mate

1 second mate &

scientific coordinator

2-5 ship's apprentices

1-2 educators

1 illustrator

3 passengers





## The Boat That Would Float

### *Fleur de Passion* before *Fleur de Passion*

**1941** : Built in Bremen, northern Germany. The future *FLEUR DE PASSION* is a motor boat of the German Navy, designed in such a way that she can be converted into a sailing boat in the event of an oil shortage. With her steel structure and wooden hull, she is largely used for mining and demining, support of U-Boats and clandestine activities, passing as a fishing boat.



**1945** : Having survived World War II, she is handed over to the French Navy, which she serves for some 30 years.

**1976** : The boat is dismantled and sold to a French sailor, who transforms her into a sailing boat and names her *FLEUR DE PASSION*, inspired by *The Boat That Wouldn't Float*, a novel by Canadian author Farley Mowat. Over the next 20 years, she sails the Mediterranean and crosses the Atlantic as a platform for scientific and socio-educational programmes.



## Over 6 years of renovation The Pacifique years

**2002** : In serious disrepair, for lack of financial resources, *Fleur de Passion* is sold to the Geneva-based Association Pacifique, a non-profit organisation that undertakes her complete renovation.

**2003** : Renovation gets underway in Marseille.

**2007** : *Fleur de Passion* becomes the flagship of the newly-created Antinea Foundation, a Swiss-based non-profit organisation dedicated to protection of the oceans, that will become the Fondation Pacifique in 2014.

**2009** : After six years of impressive renovation work, a new spring awaits *Fleur de Passion*. She is launched in Marseille in the presence of Albert Falco, former Head of Expedition of the *Calypso*; and the first season of scientific, socio-educational and environmental awareness-raising navigations starts in the Mediterranean, in the framework of the *Changing Oceans Expedition*, in partnership with the IUCN and under the high patronage of UNESCO.



## The Fondation Pacifique

### Bridging the oceans and the wider public

The Fondation Pacifique is a non-profit organization, based in Geneva where it was created in 2007. It was born out of the desire of its founders to play an innovative role in the way in which environmental as well as socio-educational questions were addressed, namely in a multidisciplinary, open way, based on partnerships and participation of the public at large, be they experts or interested individuals, young or old, welcoming all to take part in the activities aboard its sailboat and flagship, *Fleur de Passion*.

Since 2009, The Fondation Pacifique has been organizing and implementing thematic expeditions mixing scientific, socio-educational and cultural programs. Its ambition is to contribute to a better understanding of the human impact on the oceans in order to rise awareness about the necessity to better protect the environnement.



**Pietro Godenzi**  
President  
Founding member  
Skipper



**Samuel Gardaz**  
Vice-President  
Founding member  
Corporate Affairs



**Markus Kessler**  
Founding member  
Treasurer



**Pascal Sottas**  
Founding member



**Marie Monteau**  
Founding member



**Daniel Chambaz**



**Vincent Maître**

## 2009-2014: 6 seasons of navigation

**2009** – First season of scientific, socio-educational and environmental awareness-raising navigations in the Mediterranean, in the framework of the *Changing Oceans* expedition ([www.changingoceans.org](http://www.changingoceans.org)), in partnership with the IUCN and under the high patronage of UNESCO.

**2010** – Navigation season in the Mediterranean, Atlantic, North Sea and Baltic Sea:

- Mission in Morocco on the human impact on the oceans, in partnership with North American biologist Ben Halpern of the University of California in Santa Barbara
- Observation and readings in different marine protected areas
- Mission on the human impact on the oceans, in partnership with the Oceanographic Museum of Kiel, Germany
- Mission in the south of England on invasive species, in partnership with Bangor University of Wales
- Socio-educational projects and school-classes on board

**2011** – Navigation season in the Mediterranean and Red Sea:

- Mission with the Oceanographic Museum of Straslund, Germany
- Mission on the human impact on the oceans, in partnership with Ben Halpern's team of scientists
- 3D modeling mission
- *Fleur de Passion* officially recognized as a platform and space for socio-educational and reinsertion projects by Genevan authorities.

**2012** – Navigation season in the Mediterranean and Atlantic:

- Environmental awareness-raising campaign in Morocco
- Environmental awareness-raising project: *In search of the 6<sup>th</sup> Continent*
- Socio-educational and reinsertion navigations

**2013** – Navigation season in the Mediterranean and Atlantic, and transatlantic crossing at the end of the year from the Canaries and Cap Verde

- Mission on the human impact on the oceans in Dakar, Senegal, with the local NGO Oceanium
- Socio-educational and reinsertion navigations

**2014** – Transatlantic crossing, navigations in the Caribbean (Guadeloupe, Haiti, Bahamas), return across the Atlantic to Morocco, followed by navigations in the Mediterranean



## *The Ocean Mapping Expedition*

in partnership with



With the support of

**In Geneva and at stopovers:** Embassies and consulates of Switzerland, Canton of Geneva, a private foundation in Geneva, philanthropic foundation Firmenich family, Augusta foundation, Victor and Hélène Barbour foundation, Smile Wave philanthropic fund, Johann and Luzia Grässli foundation, Rotary Club, BNP-Paribas, DMB, EDMS, Ecoservices, Ecosor, Gestrag, Implenla, Piasio, Rampini, Serbeco, SRG engineering, Services Industriels de Genève, Société Privée de Gérance, North Sails Suisse.

**In Sevilla:** National Commission of the *Ve Centenary*, Government of Andalusia, Municipality, Archivo General de Indias, Aquarium, Science Museum, Club Nautico, Fundación Nao Victoria.



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